Heredia, Lima, Peru; [4]Department of International Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland, USA; [5]Department of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, UK; [6]Área de Investigación y Desarrollo, A.B. PRISMA, Lima, Peru

Objective This study aims to describe the relationship between body mass index (BMI) and blood pressure in three distinct Peruvian populations.

Methods Three population groups were recruited: Rural (born and remained in Ayacucho), Migrant (born in Ayacucho and migrated to Lima), and Urban (born in Lima). Systolic blood pressure (SBP) and diastolic blood pressure were measured using oscillometric devices (Omron M5-i, Japan) and standardised techniques. BMI was calculated from standardised measurements. ANOVA was used to test differences between groups. Multi-variable linear regression was used to describe the relationship between BMI and blood pressure, adjusting for potential confounders.

Results SBP was similar in the rural (120.9±18.7) and migrant groups (119.9±16.4), but higher in the urban group (128.2±22.9). BMI was significantly lower in the rural group (23.2±2.7), but similar in the migrant (27.0±4.3) and urban groups (28.3±5.4). There was a positive relationship between BMI and SBP (slope 0.81; 95% CI 0.59 to 1.03) after adjustment for age, sex, height and haemoglobin. A positive relationship was observed in urban residents (0.61; 0.04−1.18), but the gradient of the relationship was steeper in the migrant group (0.75, 0.48−1.02). Similar results were found for diastolic blood pressure.

Conclusions The relationship between BMI and blood pressure differed between our three study populations, with blood pressure rising at lower values of BMI in migrants. Migrant population in transitional countries may be at greater risk of developing hypertension, and the effect of BMI as a predictor is not uniform in migrant and urban-born residents.

P2-192 | **AREA OF RESIDENCE OR SOCIAL CLASS, WHICH IS THE STRONGER DETERMINANT ASSOCIATED WITH CARDIOVASCULAR RISK FACTORS AMONG PAKISTANI POPULATION? A CROSS SECTIONAL STUDY**

[3]F Tareen, [2]K Shafique, [1]S Mirza,* [1]P Vart, [3]Z Arain. [1]Dow University of Health Sciences, Karachi, Pakistan; [2]University of Glasgow, Glasgow, UK; [3]Afra General Hospital, Faisalabad, Pakistan

Background Prevalence of cardiovascular disease and the risk factors associated with it are increasing globally and in particular throughout the developing world. The south Asian region is especially at risk because of the increasing prevalence of the said risk factors. The study was undertaken to investigate the impact of social class and area of residence in distribution of cardiovascular risk factors mainly hypertension and diabetes mellitus in Pakistan.

Methods A cross-sectional study on 2495 subjects aged between 30 and 75 years was conducted in the Punjab province covering both the urban and rural areas. A detailed questionnaire was completed; anthropometric measurements and blood samples from the chosen subjects were taken after a written informed consent was obtained. Participants were categorised into urban and rural, and assigned a social class by occupation. A logistic regression model was used to explore the association between social class and the area of residence

Results Overall prevalence of hypertension and diabetes was 24.21% and 16.63% respectively. Out of the total number of participants, 56.79% (n=1417) were rural area residents while 43.21% (n=1078) were urban. Urban individuals appeared significantly more likely (p<0.001) to be hypertensive (OR=3.03, 95% CI 2.41 to 4.82) and more likely (p<0.001) to be diabetic (OR=1.77, 95% CI 1.37 to 2.29)

than rural dwellers after multivariate adjustments for age, gender, BMI and social class.

Conclusions The study thus concludes that the area of residence is a more powerful determinant associated with cardiovascular risk factors as compared to social class in Pakistani population.

P2-193 | **CONFIRMATORY FACTOR ANALYSIS OF METABOLIC SYNDROME COMPONENTS IN IRANIAN ADOLESCENTS: TEHRAN LIPID AND GLUCOSE STUDY**

[2]M Sanjari, [2]A Mirzazadeh,* [1]S Z Asl, [1]N Saadat, [1]M Tohidi, [1]F Azizi. [1]Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences and Metabolic Disease Research Center, Tehran, Iran; [2]Physiology Research Center, Kerman University of Medical Sciences, Kerman, Iran

Introduction There is no applicable model for identifying the metabolic syndrome in adolescent populations. The aim of this study was to identify the most components of risk variables associated with metabolic syndrome in Iranian adolescents.

Methods Anthropometry, blood pressure and biochemical measurements were assessed in a population-based study of 1307 Iranian adolescents (563 boys and 744 girls) aged 8−11 years in two phases, 1999−2001 and 2005-2007. Exploratory and confirmatory factor analysis was conducted using SPSS version.15.

Results A two-factor structure was identified accounting for 55.8% and 53.8% of variance for boys and girls, respectively. The factor loadings for boys (and girls) in study round one two were 0.87 (0.84). 0.88 (0.82), 0.67 (0.63), 0.75 (0.8) and −0.80 (0.81) for systolic blood pressure (SBP), diastolic BP, waist circumference (WC), triglycerides (TG) and high-density lipoprotein (HDL) respectively. In phase two, the factor loadings for boys (and girls) were 0.74 (0.86), 0.76 (0.83), 0.72 (0.43), 0.75 (0.74), −0.72 (−0.77) for SBP, DBP, WC, TG and HDL, respectively. Fasting blood sugar had a loading factor of 0.47 only in boys in study round two. The two-factor model fit the data significantly in both study rounds by sex (Comparative fit index: 0.77−0.97).

Conclusion The two-factor model could be used for determining metabolic syndrome in adolescents in Iran; these two factors are blood pressure, and lipid profile/obesity.

P2-194 | **HIGH PREVALENCE OF METABOLIC SYNDROME AMONG JAPANESE IMMIGRANT IN SOUTH BRAZIL**

[1]S Mizushima,* [2]E Moriguchi, [1]N Morikawa, [3]Y Imamatsu, [3]E Tadaka. [1]Yokohama City University Graduate School of Medicine, Yokohama, Japan; [2]Federal University of Rio Grande do Sul, Porto Alegre, Brazil; [3]Yokohama City University Graduate School of Nursing, Yokohama, Japan

Introduction Prevalence of obesity and related risk factors, recognised as Metabolic Syndrome (MetS), are influenced by environmental factors including diets and physical activities, which immigrant study can show evidence.

Objectives To assess prevalence of obesity and its related risk factors among Japanese immigrant population in South Brazil compared with representative Japanese data in Japan.

Methods In August 2010, from 12 scattered colonies of Japanese immigrants in Santa Catalina and Rio Grande do Sul States, in Brazil, 274 immigrants were recruited. MetS was determined, according to Japanese Guideline, waist circumference 85 cm or over for males and 90 cm or over for females, with at least 2 accumulated related risk factors such as hypertension, high blood sugar, high triglyceride and low HDL cholesterol. Prevalence were compared